REMARKS

Applicant respectfully requests reconsideration of the above-identified patent application in view of the foregoing amendment and following remarks. Applicant has amended to specification and specifically the Abstract to remove extra space that was inadvertently printed out. No new matter has been added. Entry of the foregoing amendment is respectfully requested. Claims 1-15 are pending.

Specification Objection

Applicant has amended the Abstract to remove the typographical error noted by the Examiner.

35 U.S.C. §102 Rejection

Claims 1-3 and 9-11 were rejected under 35 U.S.C. §102(e) as anticipated by Heller et al. (U.S. Patent 6,245,508). The Examiner alleges that Heller et al. discloses the subject matter of claims 1-3 and 9-11 (but not the additional limitations in dependent claims 4-8 and 12-15). Specifically, the Examiner points to the Heller specification (column 12 lines 24-32) where the "permeation layer" of Heller et al. is described having a "thickness from 1 nm to 1,000 micrometers" and "formed from any suitable material such as polymers, membranes, porous metal oxides (e.g., aluminum oxide), ceramics, sol-gels, layered composite materials, clays and controlled porosity glass." Applicant respectfully traverses this rejection because the Heller et al. reference does not disclose each and every limitation in independent claims 1 and 9.

Claims 1 and 9 do not need amendment in the form of addition of further limitations (such as those taken from claims 4-8 and 12-15) because Heller et al. does not disclose all of the limitations already present in claims 1 and 9. Specifically, claim 1 requires:

1. a coated semiconductor device (preamble, not a limitation).
2. plurality of electrode embedded in the semiconductor device, each having an upper surface (preamble, not a limitation).
3. a coating layer coating the upper surface (of each electrode)
4. coating layer is 0.5 to 100 microns thick
5. coating layer composed of a mixture of controlled porosity glass (CPG) particles **AND a thickening agent**.
6. **CPG particles have an average particle size of 0.25 to 25 microns**.
7. coating layer adhere to the upper surface of the semiconductor device.

Similarly, claim 9 provides a formulation for coating, wherein the formulation (5) is characterized by CPG **AND the thickening agent** and the **CPG particle size (6) is 0.25 to 25 microns**.

Items 3-7 above for claim 1 are considered to be limitations. Novelty over Heller et al. lies in limitations 5 and 6 above and bolded for emphasis.

In Heller et al., a "permeation layer" is described. The issue for this patent application is whether the permeation layer of Heller et al. anticipates the coating layer formulation provided in claims 1 and 9. In short, the coating layer is not anticipated by the permeation layer of Heller et al. because (1) the permeation layer of Heller et al. does NOT disclose or suggest a thickening agent, as is required in claims 1 and 9; and (2) the CPG particle size range is not disclosed or suggested in Heller et al.

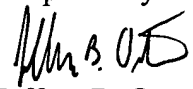
The Heller et al. disclosure of the composition of its permeation layer encompasses most of elemental matter. The Heller et al. specification has two paragraphs where the composition of the permeation layer is "described." The second place where it is described is the paragraph spanning columns 17-18. There, the list of materials for a permeation layer is "membranes, metal oxides (e.g., aluminum oxide) carbon chain polymers, carbon-silicon chain polymers, carbon-phosphorous chain polymers, carbon-nitrogen chain polymers, silicon chain polymers, polymer alloys, layered polymer composites, interpenetrating polymer materials, ceramics, controlled porosity glass, materials formed as sol-gels, materials formed as aero-gels, materials formed as hydro-gels, porous graphite, clays or zeolites." In other words, the list of permeation layer materials encompasses the majority of organic and inorganic chemistry. However, nowhere does Heller et al. disclose or suggest any use of a thickening agent to by used together with CPG. Heller et al. does not disclose or suggest claim 1 because Heller et al. does not teach how to use CPG together with a thickening agent. Accordingly, Heller et al does not anticipate the invention of claims 1 and 9 because Heller et al. does not enable a person of ordinary skill in the art to use CPG together with a thickening agent.

With regard to the required particle size limitation in claims 1 and 9 (0.25 to 25 microns), Heller et al. does not disclose or suggest any particle size for CPG. Therefore, the person or ordinary skill in the art would look to the particle size of any commercially available CPG. In this regard, applicant is attaching copies of the relevant pages of catalogs from two commercial suppliers of CPG. The Sigma-Aldrich catalog page 560 lists many items under "controlled pore glass-uncoated." In each case, the mesh range is much larger (particle size) than the claimed range. Similarly, in the 1999 CPG Inc. Product Catalog, the table (upper right) on page 64 lists flow rates, particle sizes (in microns) and mesh size ranges. In each instance, the range of particle sizes is larger than the particle size claimed in claims 1 and 9. The first sentence of page 64 of the CPG catalog relates mesh size range to particle size range. The correlations of particle size ranges and mesh sizes can be used in the Sigma catalog page.

Therefore, the facts provided herein show that commercially available CPG[1] falls outside of the scope of the CPG mention (in and amongst most of organic and inorganic chemistry) disclosed in Heller et al. Accordingly, Heller et al. does not anticipate the invention of claims 1-3 and 9-11 because Heller et al does not disclose or suggest the required particle size of CPG. Moreover, the commercially available CPG has a larger particle size well outside the claimed range.

In view of the foregoing amendment and remarks, applicant respectfully requests withdrawal of the rejection, and allowance of pending claims 1-15.

Respectfully submitted,



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[1] It should be noted that the CPG used in the present invention and described in the specification is and was not available commercially. That is why no commercial source was noted in the specification.

US $

C 2586 [-0°C] ◆ **ω-Conotoxin SVIB** 500 µg 637.70
Cys-Lys-Leu-Lys-Gly-Gln-Ser-Cys-Arg-Lys-Thr-Ser-Tyr-Asp-Cys-Cys-Ser-Gly-Ser-Cys-Gly-Arg-Ser-Gly-Lys-Cys-NH_2 [Disulfide bridges: 1–16, 8–20, 15–26; ω-CgTx SVIB
[150433-82-2] $C_{105}H_{176}N_{38}O_{36}S_6$ FW 2739
minimum 97% (HPLC)
Presynaptic Ca^{2+} channel blocker; binds N-type channels and receptors in neuronal membranes

Constitutive cyclooxygenase solution from sheep testes
See: Cyclooxygenase 1 *Page 593*

M 8273 [-20°C] **Control Ascites Fluid from murine myeloma Liquid, Clone NS-1** 0.25 mL 28.30
The NS-1 cell line does not secrete immunoglobulin. contains 15 mM sodium azide
Application(s)
Immunohistochemistry (formalin-fixed, paraffin-embedded sections) . . . suitable
Indirect immunofluorescence . . . suitable
Indirect ELISA . . . suitable

Controlled pore glass–uncoated
Glass, controlled-pore

G 9639 RT **Controlled pore glass Protein Sequencing Reagent** 1 g 23.40
200-400 mesh, 75 Å, Use tested
Useful as an inert filler in solid phase protein sequencer columns.
Acid washed
R: 37 S: 26-36

PG350-80 RT	**20-80 mesh, Nominal diameter 350 Å** R: 37 S: 26-36	10 cc	145.70
PG3000-200 RT	**120-200 mesh, Nominal diameter 3000 Å**	10 cc 25 cc	145.70 291.10
PG700-400 RT	**200-400 mesh, Nominal diameter 700 Å** R: 37 S: 26-36	10 cc 25 cc 50 cc 100 cc	145.70 291.10 485.05 808.10
PG240-120 RT	**80-120 mesh, Nominal diameter 240 Å** R: 37 S: 26-36	10 cc	145.70
PG75-200 RT	**120-200 mesh, Nominal diameter 75 Å** R: 37 S: 26-36	10 cc	145.70
PG120-200 RT	**120-200 mesh, Nominal diameter 120 Å** R: 37 S: 26-36	10 cc	145.70
PG350-120 RT	**80-120 mesh, Nominal diameter 350 Å** R: 37 S: 26-36	10 cc 25 cc	145.70 291.10
PG1000-120 RT	**80-120 mesh, Nominal diameter 1000 Å**	10 cc 25 cc	145.70 291.10
PG1000-200 RT	**120-200 mesh, Nominal diameter 1000 Å**	10 cc 25 cc 50 cc 100 cc	145.70 291.10 485.05 808.10
PG170-120 RT	**80-120 mesh, Nominal diameter 170 Å** R: 37 S: 26-36	10 cc	145.70
PG75-120 RT	**80-120 mesh, Nominal diameter 75 Å** R: 37 S: 26-36		
PG120-120 RT	**80-120 mesh, Nominal diameter 120 Å** R: 37 S: 26-36		
PG500-200 RT	**120-200 mesh, Nominal diameter 500 Å** R: 37 S: 26-36		
PG700-120 RT	**80-120 mesh, Nominal diameter 700 Å** R: 37 S: 26-36		
PG500-80 RT	**20-80 mesh, Nominal diameter 500 Å** R: 37 S: 26-36		
PG1000-80 RT	**20-80 mesh, Nominal diameter 1000 Å** R: 37 S: 26-36		
PG1400-120 RT	**80-120 mesh, Nominal diameter 1400 Å**		
PG2000-400 RT	**200-400 mesh, Nominal diameter 2000 Å**		
PG2000-200 RT	**120-200 mesh, Nominal diameter 2000 Å**		
PG350-200 RT	**120-200 mesh, Nominal diameter 350 Å** R: 37 S: 26-36		
PG240-400 RT	**200-400 mesh, Nominal diameter 240 Å** R: 37 S: 26-36		
PG350-400 RT	**200-400 mesh, Nominal diameter 350 Å** R: 37 S: 26-36		
PG240-80 RT	**20-80 mesh, Nominal diameter 240 Å** R: 37 S: 26-36		
PG170-400 RT	**200-400 mesh, Nominal diameter 170 Å** R: 37 S: 26-36		
PG700-200 RT	**120-200 mesh, Nominal diameter 700 Å** R: 37 S: 26-36		
PG240-200 RT	**120-200 mesh, Nominal diameter 240 Å** R: 37 S: 26-36		
PG170-80 RT	**20-80 mesh, Nominal diameter 170 Å** R: 37 S: 26-36		
PG75-400 RT	**200-400 mesh, Nominal diameter 75 Å** R: 37 S: 26-36		
PG1000-400 RT	**200-400 mesh, Nominal diameter 1000 Å**		

...d process serum replacement-type 3 See: CPSR-3
...ura® Page 1892

...toxin 100 mg 54.90
...phanthidin α-L
...nopyranoside; 3β,5α,14-Tri-
...oxy-19-oxo-5β,20(22)-carde-
...de 3-(6-deoxy-α-L-mannopyranoside)
...8-75-8] $C_{29}H_{42}O_{10}$ FW 550.7
...oprox. 70%
...6/27/28 S: 53-22-45-36/37/39

...lamine 20 mg 62.00
...NO_4 FW 305.4
...oprox. 95% (TLC), Solid
...nesthetic acting on the nerve endings, with a ...od selectivity on sensory nerves; lowers arterial ...ssure; vasodilator
...tect from light.
...: Orekov, et al., *Chem. Ber.* **67**, 52 (1934)
...-22-45-36/37/39

...ose rose bengal agar 500 g 120.55
Ingredients (g/L)
Papaic digest of soyabean meal, 5.00
Dextrose, 10.00
Monopotassium phosphate, 1.00
Magnesium sulphate, 0.50
Rose Bengal, 0.035
Agar, 20.00
Used for the selective cultivation and isolation of fungi.

...omassie® brilliant blue G 250 See: Brilliant Blue G *Page 327*

...omassie Brilliant Blue G See: Brilliant Blue G *Page 327*

...omassie® dye binding protein assay, Protein dye reagent
See: Bradford Reagent *Page 320*

...OP-1 See: Poly(Ala, Glu, Lys, Tyr) 6:2:5:1 *Page 1716*

Monoclonal Anti-β-COP from mouse
Isotype . . . IgG1

Liquid, Ascites fluid, Clone maD 0.2 mL 146.30
0.5 mL 292.00
Immunogen: synthetic peptide D1 of β-COP (a.a. 701-715) conjugated to KLH
The antibody recognizes an epitope in the β-COP protein (110 kDa) and stains the periphery of the Golgi complex using immunocytochemical techniques. The product may also be used in immunoblotting and for microinjection into cells. Species reactivity: hamster, rat, monkey, human contains 15 mM sodium azide
Application(s)
Immunoblotting 1:1,000 using a preparation of stacked Golgi membranes from rat liver
Indirect immunofluorescence . 1:80 using cultured Chinese hamster ovary (CHO) cells
Ref.: 1. Pepperkok, R., et al., *Cell* **74**, 71 (1993)
2. Griffiths, G., et al., *J. Cell Sci.* **108**, 2839 (1995)

Liquid, Ascites fluid, Clone M3A5 0.2 mL 141.30
0.5 mL 282.20
Immunogen: microtubule-associated protein from goose brain
The product recognizes an epitope shared by β-COP (110 kDa) found in most tissue culture lines, and by a high M.W. doublet of brain microtubule-associated protein (MAP2, 270-300 kDa). The antibody stains a reticular structure in the perinuclear area of non-neuronal cells (the periphery of Golgi complex and a population of coatomers scattered throughout the cytoplasm) in tissues from different species and cell processes, as well as cell bodies in chicken brain neuronal cells. The product has been used for studies on the effects of various agents that influence energy status, disrupt the Golgi complex, or alter the activity of G-proteins or small GTP-binding proteins on the cellular localization of β-COP. This product may be

...

C 5893 RT ...

20,707-1 RT ◆ ...

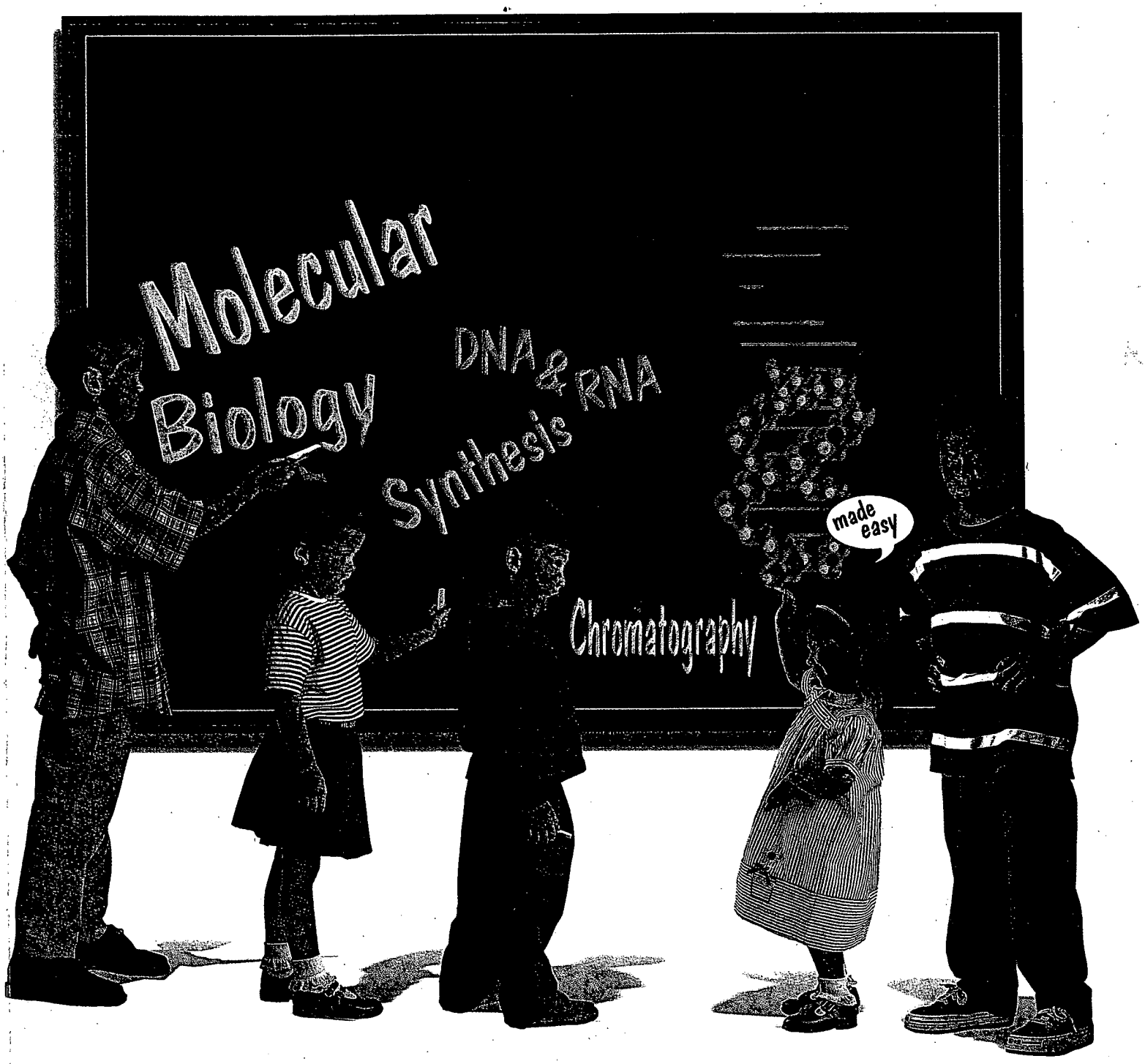
C 3279 RT ...

C 6917 RT ...

C 6641 RT ...

C 6176 RT ...

C 2646 RT ...



CPG® INC

1999 Product Catalog

EXPERTS IN PURIFICATION & SEPARATION SINCE 1988

Controlled-Pore Glass

Particle Size:

Three standard particle sizes are available: 80/120 mesh (125-177 µm), 120/200 mesh (74-125 µm) and 200/400 mesh (37-74 µm). At least 80% (wt%) of the particles are within the specified mesh range. Other particle sizes are available upon request. Since the particle is rigid, flow resistance is low and a linear relationship exists between flow rate and pressure. See Table 2 for typical flow rate data.

Table 2: Typical flow rate.

Particle Size (µm)	Mesh Range (ASTM)	Flow Rate* (ml/min)
125 - 177	(80/120)	5.0 - 7.0
74 - 125	(120/200)	3.5 - 5.0
37 - 74	(200/400)	1.2 - 1.6

*Flow rate for a column of 1 cm diameter x 100 cm at 1 atm.

Specific Surface Area & Packing Density:

Specific surface area is proportional to specific pore volume, and inversely related to the pore diameter. This parameter is measured by nitrogen adsorption. Typical specific surface area of different pore sizes are detailed in Table 3. The real density of the quartz-skeleton of the CPG is 2.23 g/cc, however, the packing density which depends on the pore size, particle size, and the pore volume of each individual lot, typically varies between 0.38 to 0.6 g/cc (Table 3).

• **ordering information, pages 68 - 70**

Table 3: Typical Parameters for Uncoated & Surface Modified CPG Products.

Nominal Pore Diameter (Å)	Specific Pore Volume (cc/g)	Specific Surface Area (m^2/g)	Packed Density (g/cc)
75	0.4	120	0.60
120	0.6	110	0.57
170	0.7	95	0.52
240	0.8	75	0.47
350	0.8	55	0.45
500	0.9	40	0.43
700	1.0	35	0.41
1000	1.0	23	0.39
1400	1.0	15	0.38
2000	1.0	11	0.38
3000	1.0	7	0.38

Solubility of CPG:

Solubility of CPG is a function of temperature, pH, time, composition and volume of solution and the surface area of the glass. The solubility of glass increases by a factor of ~ 1.5 for every 10°C increase in temperature. Durability of CPG is pH dependent, it is stable in most acids (except HF) but is soluble in alkali solution. Above pH 8.0, solubility increases by a factor of 2 for every 10°C increase in temperature. The best pH range for CPG is pH 4.5 to 8.0.

Handling of CPG:

CPG can be cleaned by using hot, concentrated nitric acid, or by dry heating to 700°C. Cleaning procedure details are available upon request.

Mixing or stirring a slurry of CPG should be done by rotating the vessel, or by using an overhead motor driven stirrer. Stirrers which create a grinding action between the stirrer and the bottom of the vessel should be avoided (e.g. bottom resting magnetic stirrers).

To order: (800) 362-2740 or (973) 305-8181
Fax (973) 305-0884, email: orders@cpg-biotech.com

CPG INC.